



OBSERVATION OF DRUG UTILIZATION PATTERN AND PREVALENCE OF DISEASES IN ELDERLY PATIENTS THROUGH HOME MEDICATION REVIEW

JYOTI UPADHYAY, YOGESH JOSHI*

Himalayan Institute of Pharmacy & Research, Dehradun, Uttarakhand-248001, India
E-mail: yogeshjoshi1583@rediffmail.com

ABSTRACT

Home Medication Review is a concept where a pharmacist has the opportunity to visit a patient in the familiar surroundings of the latter's home and questions that no one has been able to confidently answer can be answered. Medication review takes the pharmacist out of the shop into the community. Home medication review is an exciting opportunity for Indian pharmacist to contribute further to the health care of their communities. A door to door survey was conducted in an area of 2 sq. km. surrounding Shri Mahant Indires Hospital of Dehradun, to identify geriatric residents, diseases prevalent in them and prescription pattern. The study was primarily targeted at the elderly because, as a group they take more drugs than their younger counterparts and are known to be at risk of the side effects of many of the drugs they consume. The result of this study showed that Cardiac disorders (34%) were most prevalent among elderly population. 40% patients were non-compliant due to poor economic status, difficulty in swallowing of the prescribed dosage forms, and disturbing side effects. Self-medication (38%) was one of the prevalent phenomena among the elderly.

Key words: Medication review, non-compliance, self medication.

INTRODUCTION

The human body is in a state of change as the years go by. There is a progressive functional decline in many organ systems with advancing age. Age-associated physiologic changes may cause reduction in functional reserve capacity (i.e. the ability to respond to physiologic challenges or stresses)¹.

The cardiovascular, musculoskeletal and central nervous system appears to be most affected. The elderly have multiple and often chronic diseases. It is not surprising therefore that they are the major consumer of drugs. The type of chronic conditions among older persons tend to be more disabling (e.g. arthritis, heart disease)². The medical problems reported by the elderly are mainly related to chronic disorders. Coronary heart disease is the leading cause of death in elderly. Visual and locomotor disabilities are widely reported³.

There has been a steady increase in the number of elderly people, defined as those over 65 years of age. Several conditions are likely to be present. The elderly are more susceptible to adverse drug reactions for a number of reasons. They are usually on multiple drugs which in itself can account for increased incidence of adverse drug reaction. Care of the elderly in India began in 1973 and with the efforts of physician devoted to the cause of the elderly, Geriatric society of India was born in 1979⁴.

Drug related problems in the elderly

A number of factors are believed to increase the risk of drug related problems in the elderly, including suboptimal prescribing (e.g. overuse of medications or polypharmacy, inappropriate use, and under use), medication errors (both by dispensing and administration problems) and patient medication, non-adherence (both intentional and unintentional)⁵. The study has been conducted to observe the drug utilization pattern and prevalence of chronic diseases in elderly by visiting them in their community.

The main objectives are:

- To investigate the prevalence of chronic diseases in elderly population in Dehradun.
- To visit a patient in the familiar surrounding i.e. home and ask the questions regarding their medication.
- To observe drug utilization pattern in elderly population through home medication review.

METHODOLOGY

A Door to door survey was conducted to identify the residents of age above 65 years and 200 subjects were included for the study after informing them about the purpose of the study and prior consent. A questionnaire was prepared that includes many practical questions regarding disease condition, medication prescribed, health status,

socioeconomic status, family support etc. The geriatric subjects were quite cooperative and confident in answering the questions since it was their familiar surrounding i.e. home. Table-1 shows the questions which were asked during medication review of elderly patients.

Table 1: Questionnaire

Questions were asked regarding	
✓	Disease of patient and medicines prescribed.
✓	Patient compliance for medication. If no, then reason.
✓	Any other medications (ayurvedic, allopathic, homeopathic) taken by the patient which neither pharmacist nor doctor knew.
✓	Risks associated with the structure of house and furnishing (such as poor lightning, stairs obstacles etc).

RESULTS AND DISCUSSION

This community based survey included 200 elderly patients, among which 98 (49%) were males and 102 (51%) were females. Elderly population suffers from numerous chronic disorders. This study highlighted that cardiac disorders (34%) were most prevalent among the concerned elderly population (Figure 1). A Total of 456 individual drugs were prescribed to the elderly patients, out of which Antihypertensive drugs (30.92%), Antidiabetic drugs (21.93%), Antiplatelet drugs (16.01%) and Antirheumatic drugs (14.04%) were most commonly prescribed drug categories (Table 2). 60% of the patients were compliant, while the remaining 40% were non-compliant for their medication. The reasons for non-compliance are shown in Figure 2. Difficulty in swallowing drugs (30%); forget to take medicines (25%) and poor economic status (25%) was among the most common causes of patient non-compliance.

This survey also revealed that 72 (38%) elderly does self-medication and reasons for self medication and its prevalence among the study population are listed in Table 3. Analgesics/Antipyretics (55.56%)

Table -2: Classification of Drugs Prescribed to the Elderly

S. No.	Drug Classification	Drugs	No. of drugs prescribed (%)n = 456
1.	Antihypertensive Drugs	Amlodipine, Atenolol, Metoprolol, Ramipril	141 (30.92)
2.	Antidiabetic Drugs	Glipizide+Metformin Glemipride+Metfprmin	100 (21.93)
3.	Antiplatelet Drugs	Aspirin , Clopidogrel	73 (16.01)
4.	Antirheumatic Drugs	Diclofenac, Naproxen, Etoricoxib	64 (14.04)
5.	Bronchodilators	Salbutamol, Theophylline, Montelukast	28 (6.14)
6.	Antidepressant Drugs	Fluoxetine+Alprazolam, Olanzapine	18 (3.95)
7.	Hypolipidemic Drugs	Atorvastatin	10 (2.19)
8.	Antiparkinsonism Drugs	Levodopa+Carbidopa	10 (2.19)
9.	Antitubercular Drugs	Rifampicin +Isoniazid	4 (0.88)
10.	Drugs Acting On Thyroid Function	Thyroxine	4 (0.88)
11.	Antianginal Drugs	Nitro-glycerine	4 (0.88)

Table -3: Reasons for Self-medication

S. No.	Reasons	No. of male patient (%) n = 31	No. of female patient (%) n = 45	Total Patients (%) n = 76
1.	Lack of time	11 (35.48%)	17 (15.56%)	18 (23.37%)
2.	High consultation fee	10 (32.26%)	12 (26.67%)	22 (28.95%)
3.	Quick relief	09 (29.03%)	05 (11.11%)	14 (18.42%)
4.	Believes in Ayurveda	01 (3.33%)	11 (24.44%)	12 (15.79%)
5.	Family members are not supportive	00 (0.00%)	03 (6.67%)	03 (3.95%)
6.	Unable to walk	00 (0.00%)	07 (15.56%)	07 (9.21%)

Table -4: Drugs Taken by the Elderly as Self-Medication

S. No.	Drugs Category	Total Patients (%) n = 76	Name of the Drugs	Uses
1.	Analgesics/ Antipyretics	40 (55.56%)	<ul style="list-style-type: none"> Aspirin Nimuslide Paracetamol 	Headache Body pain Fever
2.	Antacids	29 (40.28%)	<ul style="list-style-type: none"> Ranitidine Aluminium hydroxide+ Magnesium hydroxide 	Acidity
3.	Expectorant	16 (22.22%)	<ul style="list-style-type: none"> Chlorpheniramine maleate + Codeine phosphate 	Cough
4.	Multi-Vitamins	12 (16.67%)	<ul style="list-style-type: none"> Vitamin B complex 	Weakness
5.	Ayurvedic and Homeopathic Drugs	11 (15.28%)	<ul style="list-style-type: none"> Rasayan vishista Rumalaya forte Mahayograj guggul 	Hypertension

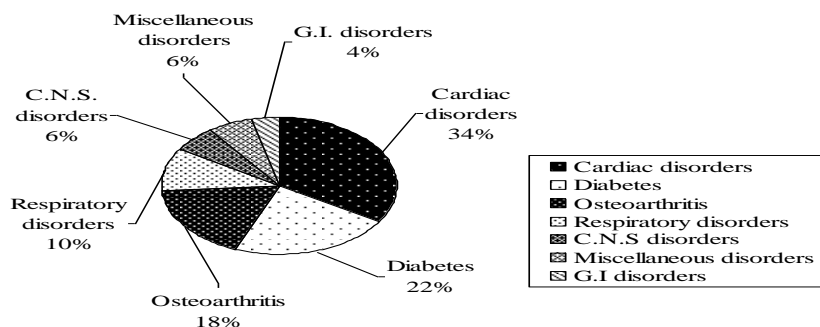


Figure -1: Prevalence of Chronic Disorders among Elderly

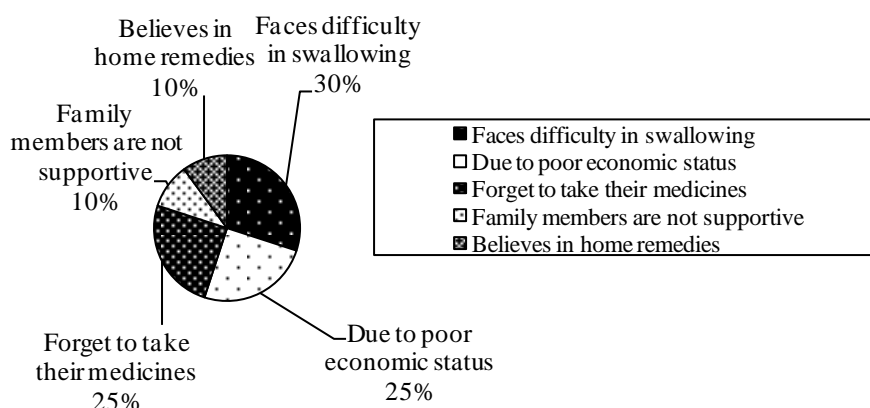


Figure -2: Reasons for Non-Compliance among Elderly

Table 5: Over the Counter Drugs Used by the Elderly

S. No.	Drugs
1.	Becosule (Vitamin B complex)
2.	Evion (Vitamin E)
3.	Dexorange (Iron preparation)
4.	Benadon (Pyridoxine)
5.	Supracal (Calcium citrate + Magnesium hydroxide)
6.	Solbala plus (Methylcobalamine + Lipoic acid)

were the most common drug category taken by the elderly as self medication while other categories includes Antacids, Expectorants, Multi-vitamins, Ayurvedic and Homeopathic drugs (Table 4). Drugs like Multivitamins, Iron and Calcium supplements were taken by the elderly as over the counter (OTC) preparation (Table 5).

CONCLUSION

A Home medication review greatly decreases the load on tertiary care services for the elderly, which in India are sadly lacking. This

may be because the Indian elderly at present are mostly in the "young elderly" age group (60 to 75 yrs old) in which there is little demand for long term health care. Several forums have discussed the need for more emphasis on geriatric medicines and management in India. The public health system needs more centers and specialist in this field. "We cannot heal the old age, but let us protect it, promote it and prolong it." - Sir J Ross⁴.

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